

3. The recyclable adhesive or adhesive coating of claim 1, wherein the adhesive is a hot-melt adhesive capable of bonding to a surface when heated to above its melting point temperature.

4. The recyclable adhesive or adhesive coating of claim 3, wherein the hot melt adhesive is formed by reacting polyamide with epichlorohydrin.

5. The recyclable adhesive or adhesive coating of claim 1, wherein the polymer comprises a cationically charged monomer and a backbone co-polymerizable with the cationically charged monomer.

6. The recyclable adhesive or adhesive coating of claim 5, wherein the backbone is present in the amount of 60 to 95 mole % based on the polymer.

7. The recyclable adhesive or adhesive coating of claim 5, wherein the backbone is present in the amount of 80 to 90 mole % based on the polymer.

8. The recyclable adhesive or adhesive coating of claim 5, wherein the cationically charged monomer is present in the amount of 5 to 40 mole % based on the polymer.

9. The recyclable adhesive or adhesive coating of claim 5, wherein the cationically charged monomer is present in the amount of 8 to 25 mole % based on the polymer.

10. The recyclable adhesive or adhesive coating of claim 5, wherein the backbone comprises vinyl acetate, butadiene, styrene, acrylate comprising 1 to 8 carbon atoms in the acrylate's alkyl group, polyacrylate comprising 1 to 8 carbon atoms in the polyacrylate's alkyl group, polyester, polyamide, and combinations thereof.

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Cont

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11. The recyclable adhesive or adhesive coating of claim 5, wherein the cationically charged monomer is an alkyl ammonium halide.

12. The recyclable adhesive or adhesive coating of claim 5, wherein the cationically charged monomer is selected from the group consisting of 3-(methacryloylamino)propyltrimethylammonium chloride, 2-(methacryloyloxy)ethyltriethyl ammonium chloride, diallyldimethylammonium chloride, and vinyl benzyl trimethyl ammonium chloride.

13. The recyclable adhesive or adhesive coating of claim 5, wherein the polymer further comprises an internal cross-linker present in the amount of up to 2 mole %, based on the polymer.

14. The recyclable adhesive or adhesive coating of claim 5, wherein the polymer further comprises an internal cross-linker present in the amount of 0.1 to 1 mole %, based on the polymer.

15. The recyclable adhesive or adhesive coating of claim 13, wherein the internal cross-linker is chosen from at least one of ethylene glycol dimethylate, diallyl maleate, diallyl phthalate, divinyl benzene, and poly(ethylene glycol) di(meth)acrylate.

16. The recyclable adhesive or adhesive coating of claim 10, wherein the acrylate in an alkyl (meth)acrylate.

17. The recyclable adhesive coating of claim 16, wherein the alkyl (meth)acrylate is selected from n-butyl acrylate, 2-ethylhexyl acrylate, and isooctyl acrylate.

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18. The recyclable adhesive or adhesive coating of claim 5, wherein the polymer further comprises up to 35 mole % based on the polymer of an uncharged water soluble monomer or macromer.

19. The recyclable adhesive or adhesive coating of claim 18, wherein the uncharged water soluble monomer or macromer is chosen from at least one of dialkylaminoethyl methacrylate, hydroxy alkyl (meth)acrylate, hydroxy alkyl vinyl ether, poly(ethylene glycol) (meth)acrylate, polyethylene glycol, glycerol, diethylenetriamine, polyethyleneimine, and combinations of these compounds.

20. The recyclable adhesive or adhesive coating of claim 5, wherein the adhesive further comprises a plasticizer to increase the flexibility of the adhesive.

21. The recyclable adhesive or adhesive coating of claim 5, wherein the adhesive further comprises a tackifier to render the adhesive tacky.

22. The recyclable adhesive or adhesive coating of claim 1, wherein the adhesive or adhesive coating forms a tape.

23. The recyclable adhesive or adhesive coating of claim 1, wherein the adhesive or adhesive coating forms a label.

24. The recyclable adhesive or adhesive coating of claim 1, wherein the adhesive or adhesive coating forms a paper coating.

25. The recyclable adhesive or adhesive coating of claim 1, wherein the adhesive or adhesive coating forms a self-adhesive stamp.

66. A recyclable adhesive paper coating made according to the method comprising:

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Q2
combining a cationically charged monomer and a backbone which is copolymerizable with the cationically charged monomer to form a reaction mixture, wherein the concentrations of the cationically charged monomer and the backbone are pre-selected to control the cationic content of the adhesive;

polymerizing the reaction mixture to form a coating comprising a polymer which is soluble or dispersible in water, wherein the polymer has 5 to 40 % of cationic repeat units such that the coating is attracted to fibers during recycling; and

wherein the recyclable coating is for a recyclable paper coating.

IN THE SPECIFICATION

Please amend the specification by replacing the paragraphs bridging pages 12 and 13.

Q3
The cationically charged monomer is present in the polymer in an amount of about 5 to 40 mole %, preferably 8 to 25 mole % and most preferably 10-20 mole %. Alkyl ammonium chlorides, such as {3-(methacryloylammino) propyl} trimethyl-ammonium chloride (MAPTAC), {2-(methacryloyloxy)ethyl} trimethyl-ammonium chloride (MAPTAC, diallyldimethyl-ammonium chloride (DADMAC), and vinyl-benzyl trimethyl-ammonium chloride (VBC), may serve as the cationically charged unit. The following reaction illustrates one example of the preparation of a cationically charged PSA:

